

Unit (1)
Large numbers and operations on them



Hundred Thousands (Six digits)

What's the greatest 5 digits no? ------------------------

and we read it as ---

If we add (1) → ------------
+ 1

We get → ------------------

Remark:

- The smallest 6 digits number is ----------------
- The greatest 6 digits number is ----------------

Example (1):

❖ **Read the following number**:

370634 → three hundred seventy thousand, six hundred thirty four

❖ **Write the value of the circled digits in each**:

2(7)3 5 1 1 5 6 3(4)8

Solve the book p.

1- Complete the table:-

Number	Thousand			H	T	U
	H	T	U			
870031						
98521						
247852						

2- Write the value of the circled digit in each number:-

- 12(5)013 → ……………………………………………
- (3)8712 → ……………………………………………
- 1(0)5302 → ……………………………………………
- 9 1 3 1 7(6) → ……………………………………………
- 1(0)0378 → ……………………………………………

3- Write the number:-

- One hundred seventy nine thousand and twelve.

……………………………………………………………

- Three hundred sixty one and thirty three.

……………………………………………………………

- One hundred thousand and one.

……………………………………………………………

Follow Lesson (1)

We have learned yesterday that the smallest 6 digits number

is --

Remark:

Comparing between two numbers:

- Counting the number of digits in each.
- Start the comparing from the left.

Example (1):

❖ **Put the suitable sign (< , > , =)**:

1- 132045 ☐ 93245

2- 100074 ☐ 74001

3- 20864 ☐ 20531

❖ **Arrange the following in an ascending order**:

a) 654321 , 143264 , 142365 , 645321

.... , ... , ... , ...

Solve the book p.

1- Put > , < , = :-

a) 233467 ☐ 233164

b) 198387 ☐ 198005

c) 7500 hundreds ☐ 750 thousands

2- Arrange the following umbers in ascending order:-

a) 325604 , 302564 , 325046 , 325064

……….. , ………. , ………. , ……….

b) 515115 , 151155 , 551005 , 115515

……….. , ………. , ………. , ……….

c) 345100 , 335100 , 365100 , 334100

……….. , ………. , ………. , ……….

d) 624210 , 532999 , 415624 , 700312

……….. , ………. , ………. , ……….

3- Write the place value of the circled digit:-

a) 2⑦3 5 1

----

b) 1 5 6 3④8

Place value
(The name of the place)
Value:
The value of digit

Follow Lesson (1)

Complete in the same pattern:

a) 710654 , 720654 , 730654 , ---------- , -----------

b) 80 000 , 280 000 , 480 000 , ---------- , -----------

Underline the nearest number to 100 000:

a) 90 000 and 10 9000

The solution:

* 100 000 – 90 000 = ---------   * 109000 – 100 000 = ---------

Notice:-

$9000 < 10000$

So 109000 nearest to ----------------

a) Write the greatest 6-digits number --------------------------

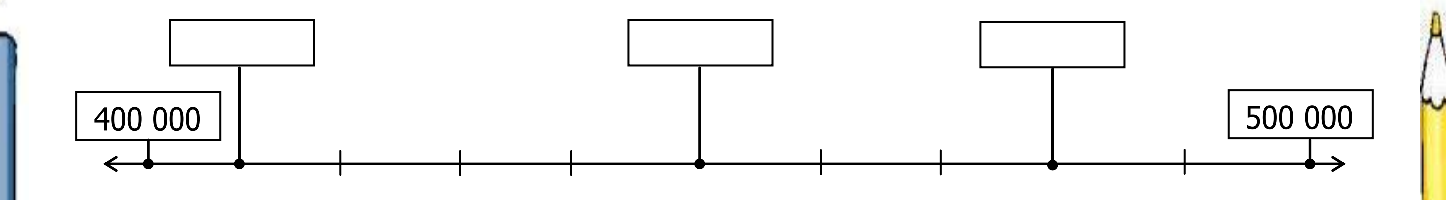
b) Write the greatest number different 6–digits number and

their sum is 15 -------------------------

c) Write the greatest number different 6–digits number and the

sum of its unit and tens digits is 7 -------------------------

1- Write suitable numbers inside the empty rectangles on the number line according to their places:-



The solution:

* 500 000 – 400 000 = 100 000

Note that: we have ten places

100 000 ÷ 10 = 10 000

Add 10 000 each one

a) Write the greatest different 6-digits number --------------------

b) Write the smallest 6-digits number --------------------

c) Write the smallest different 6-digit number and their sum is 17 ----------------------

d) Write the smallest different 6-digit number and the sum of its and tens digits is 7 ----------------------

Use
0
1
2
3
4
5
6
7
8
9



Millions

The greatest 6 digits number:

is → ------------

If we add ① → + 1

We get → ------------------

Remember that

$\frac{1}{2}$ million = -----------

$\frac{1}{4}$ million = ------------

$\frac{3}{4}$ million = ------------

And we read it as -------------------

Read the following number:

9432123 ---------------------

6001540 ---------------------

Complete:

2405396 = ----------- million + -------- thousand + ------------

------------ = 6 million + 421 thousand + 576

❖ **Put the suitable sign (< , > , =)**:

52500811 ☐ 52501811

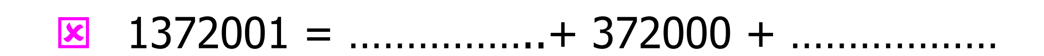
3045819 ☐ 4460329

Book p.

1- Complete:-



- 5984371 = 5000000 + ... + 371



- 1372001 = ...+ 372000 + ...
- 5811002 = ...+ ....+ ....

2- Put > , < , = :-

a) 9895451 ☐ 890881

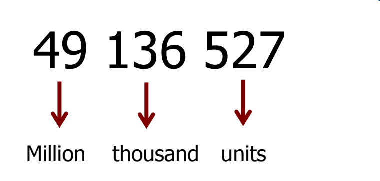
b) 52500811 ☐ 52501811

c) 287601522 ☐ 287601422

d) 571600254 ☐ 571600329

Ten Million
(8 digits)

Notes:-



Read the following number:

73421685 → ------------ million ---------- thousand and -----------

22153027 → ----------- million ----------- thousand and -----------

Add one million:

6530247

Add ten million:

49136500

Complete:

- 52936147 = ---------- + ---------- + -----------
- 30545100 = ---------- + ---------- + -----------
- 50012980 = ---------- + ---------- + -----------

Book p.

1- Complete the table:-

Number	Millions			Thousands			H	T	U
	H	T	U	H	T	U			
12345102									
7354621									
300123123									

2- Complete:-

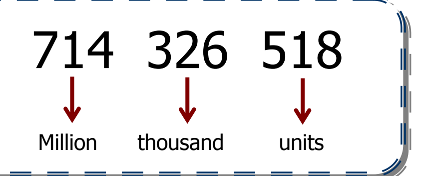
- 734120132 = ……………. million + ……………. thousand + …………….
- 3012381 = ……………. million + ……………. thousand + …………….
- 23800233 = ……………. million + ……………. thousand + …………….

3- Write the value of underline digit according to its place:-

- 58<u>4</u>80123 ⟶ …………………………………………………
- <u>8</u>0132771 ⟶ …………………………………………………
- 5<u>1</u>001782 ⟶ …………………………………………………
- <u>6</u>30123100 ⟶ …………………………………………………
- 30<u>1</u>38322 ⟶ …………………………………………………
- <u>8</u>01018811 ⟶ …………………………………………………

Hundred Million
(9 digits)

Notes:-



Read the following:

564 253 601 → ------------ million ---------- thousand and -----------

901 420 368 → ----------- million ----------- thousand and ----------

Complete using suitable numbers:

56 340 608 < ------------ < 56 430 608

Which of the following number is nearest to 5 hundred million:

500 000 900   500 00 5000   or   499 999 000

The solution steps:

- 500 000 900 – 500 000 000 = -------------------
- 500 00 500 – 500 000 000 = -------------------
- 500 000 000 – 499 999 000 = -------------------

Remark:

Know that the smallest result of previous operation mean the number is nearest

Book p.

Hundred million

1- Read the number:-

- 532 130 514 --

- 300 145 654 --

- 645 001 321 --

2- Write the following numbers in digits:-

- Three hundred million twenty two thousand and five:

- Six hundred million two hundred and five thousand and three hundred and twenty two:

Number	Million			Thousands			Units		
	H	T	U	H	T	U	H	T	U



Milliards (10 digits)

Remmber That

$\frac{1}{2}$ milliard = 500 000 000
$\frac{1}{4}$ milliard = 250 000 000
$\frac{3}{4}$ milliard = 750 000 000

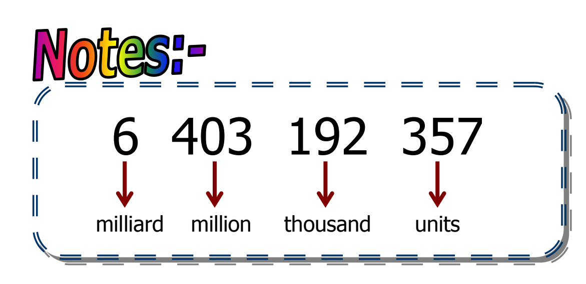
The greatest 9 digits number is ------------

and read it as ---------------------

The smallest 10 digits number is ------------

and read it as ---------------------

Notes:-



Read:

8719 645 302 → ----------- milliard ----------- million ------------ thousand and ------------

Find two 10- digit number with the different between them is one milliard:

The solution steps:

Read any ten digits number

For ***Ex:*** 3253 100 678

- 3253 3100 678 – ------------------- = 1000 000 000
- 3253 2100 678 – 1000 000 000 = ------------------

Book p.

1- Complete:-

☒ 7101264372 → .... milliard, ... million .... Thousand and ....

☒ 3201991311 → .... milliard, ... million .... Thousand and ....

☒ 201391322 → .... milliard, ... million .... Thousand and ....

2- Put > , < , = :-

a) 8700132223 ☐ 800733125

b) One milliard ☐ 999 999 999

3- Arrange in a descending order :-

a) 4321782332 , 14320782332 , 10321782333 and 5321782333

.... , ... , ... , ...

4- Write in digits:-

a) $\frac{1}{4}$ milliard = ...

b) $\frac{1}{2}$ milliard = ...

c) $\frac{3}{4}$ milliard = ...

5- Write the value of underline digit:-

☒ $713\underline{1}500922$ ⟶ ....

☒ $3\underline{3}9871402225$ ⟶ ....

☒ $2890\underline{0}732597$ ⟶ ....



Operation on Large numbers

First: Adding large numbers:

a)
```
   3785421
+   210234
----------
-----------
```

b) 3265302 + 4313491 = ------------------

Second: Subtracting large numbers:

a)
```
   7423856
+  5018739
----------
-----------
```

b) (3217907 + 4814256) – 3242140 = --------------

Book p.

Follow operation on large numbers

Circle the number nearest to the correct answer without make the operation:

a) 5260180 + 7985954 = --------------

(900 million – milliard – 13 million)

Missing no:
If the numbers far make ⊖
If the number near change the sign

b) 8205107 – 3198119 = --------------

(8 milliard – 6 milliard – 5 million)

3256712 + ------------- = 7807300

Story Problems

✸ ---

✸ ---

✸ ---

Solve book p.

Story Problems

a) Ministry of education bought 223567 computers , 198927 of them were distributed to some schools .Find the remainder of the computers.

....

....

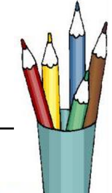
....

b) Manal bought a villa for L.E 5834520 and her brother bought another one in the same town for L.E 8237005. Find the total price of the two villas?

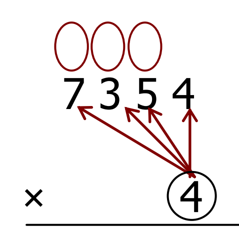
....

....

....



Multiplying by 1 digits



The solution steps:

- ☺ We need table ④
- ☺ 4 × 4 = 16 → write put 6 of carry up ①
- ☺ 4 × 5 = 20 and ① = 21 put 1 and carry up

Table 4

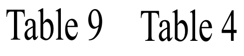
\# **Find:**

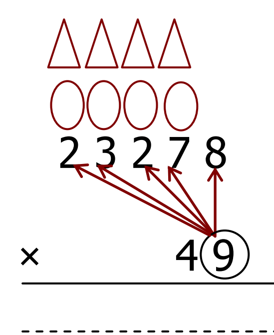
83204
× 8

3605421
× 6

Multiplying by 2 digits

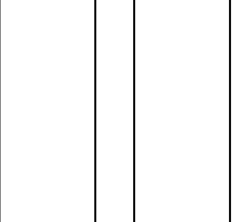
Table 9 Table 4





The solution steps:

- ☺ We need table ⑨ and ④ × gas the previous steps
- ☺ Put ⓪ under unit
- ☺ Multiply by ④
- ☺ Make ⊕



\# **Find:**

123
× 15

475209
× 23

Book p.

1- Find the result:-

a) $\begin{array}{r} 2583 \\ \times \quad 7 \\ \hline \end{array}$ ....

b) $\begin{array}{r} 2009 \\ \times \quad 5 \\ \hline \end{array}$ ....

c) $\begin{array}{r} 6345 \\ \times \quad 45 \\ \hline \end{array}$ ....

d) $\begin{array}{r} 23278 \\ \times \quad 49 \\ \hline \end{array}$ ....

2- Find the result:-

a) 378 × 35 = ...

b) 28817 × 13 = ...

c) 38023 × 31 = ...

d) 101370 × 42 = ...



Follow multiplying by 1 & 2 digits

Solve the story problem your book p.   :

3) ---

----

4) ---

----

5) **Choose the number nearest to the correct answer:**

- 25 × 977 × 4 = ------------

  (9000 , 10 000 , 110 000)

- 40 × 75 × 50 = ------------

  (300 thousand , 200 thousand)

Story Problems

a) Heba bought 85 meters of cloth for 25 L.E per meter. Find the price of the cloth.

....

....

....

b) A fruiter bought a box of apples that weights 18 kgs, the price of each kilogram is 725 P.T. How much does the whole box cost?

....

....

....

c) A farmer bought 20 lambs for 89 L.E each after 1 year, one lamb died and the other were sold for 125 L.E each. Find the farmer's profit?

....

....

....

Dividing a whole number by 1-digit

5 6 8 ÷ 2 = 2 8 4

dividend divisor quotient

Table 2

Remark:

- At first write table 2.
- Start dividing from left.

Example:

a) 946 ÷ 2 = -------------

b) 847 ÷ 7 = -------------

c) 486 ÷ 3 = -------------

d) 655 ÷ 5 = -------------

Note:-

17 ÷ 2 = 8

But: 2 × 8 = 16 we have remainder ------------

Example:

a) 15 ÷ 4 = ------------- and remainder -------------

b) 22 ÷ 3 = ------------- and remainder -------------

Solve: 831÷ 3 = ---------- 124 ÷ 4 = -------------

Book p.

1- Find the result:-

a) $368 \div 8 =$

8 | 368

b) $176 \div 4 =$

4 | 176

c) $938 \div 7 =$

7 | 938

d) $1144 \div 2 =$

2 | 1144

2- Find the result:-

a) $300 \div 6 =$

6 | 300

b) $464 \div 4 =$

4 | 464

c) $13282 \div 2 =$

2 | 13282

d) $48195 \div 5 =$

5 | 48195

Dividing a whole number by 2-digits number

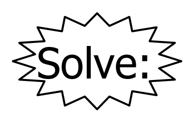
1 3 2 0 ÷ 1 1 = -----------

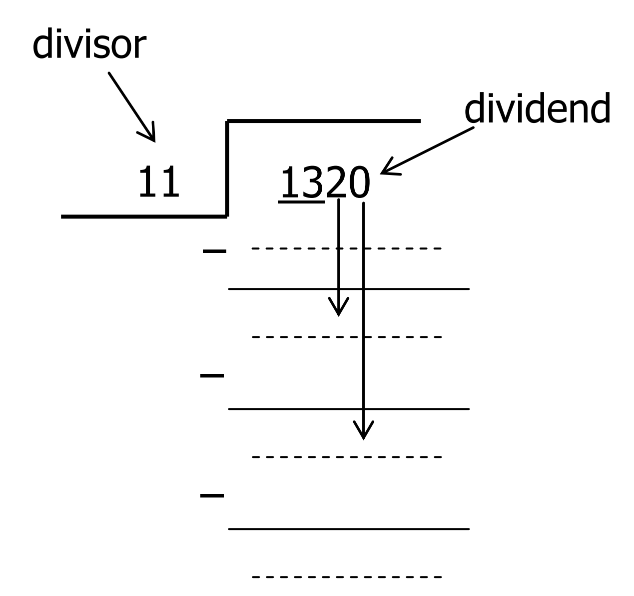
dividend   divisor

11 × 1 = 11
11 × 2 = 22
11 × 3 = 33
11 × 4 = 44

The solution steps:

- Write the table of the divisor as shown.
- Steps of division (÷ , × , - , ↓)

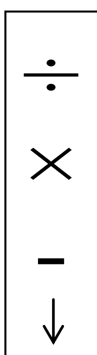


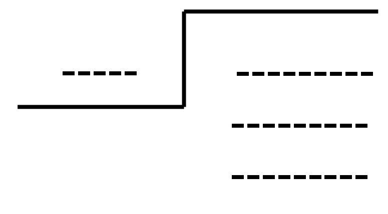


Solve the exercise book p.

1) 2538 ÷ 8 = ---------------

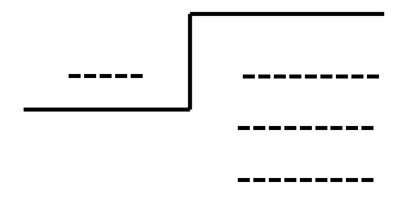






----

2) 24480 ÷ 24 = ---------------



----

3) 2312 ÷ 68 = ---------------

----- | ---------

Follow dividing a whole number by 2-digit

Find the quotient and the remainder:

2539 ÷37 = -------------

Table: 37
37 × 1 = 37
37 × 2 = -----
37 × 3 = -----
37 × 4 = -----
37 × 5 = -----

37) 2539
− -------------

−

So: The quotient = ----------- and remainder --------------

Find the quotient:

48) 96960

35) 70070

62) 3423

Solve book p.

2- Quotient and remainder:-

a) $89 \div 24 =$

24) 89

b) $307 \div 23 =$

23) 307

c) $80800 \div 35 =$

35) 80800

d) $646 \div 19 =$

19) 646

e) $3415 \div 62 =$

62) 3415

General Exercises

1) Find the result for each of the following:

62550 ÷ 25 = -----------

Table: 25

25 × 1 = -----

25 × 2 = -----

25 × 3 = -----

25 × 4 = -----

25 × 5 = -----

25) 62550

----

7) 721014

  267
× 18

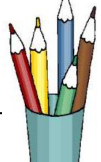
+ ------------------

  3478
×   9

Story Problems

* --

Book p.



Story Problems

a) There are 12 cakes inbox. How many boxes can be filled with 96 cakes?

....

....

....

b) A tourism agency wanted to take some buses to transport 2112 tourists to giza pyramids, if each bus holds 44 tourists. How many buses are needed?

....

....

....

d) A shop keeper bought 3456 bars of chocolate he divided them equally into 27 boxes Find:

1) How many bars of chocolate bare are there in one box?

2) How many bars of chocolate one are there in 18 boxes?

....

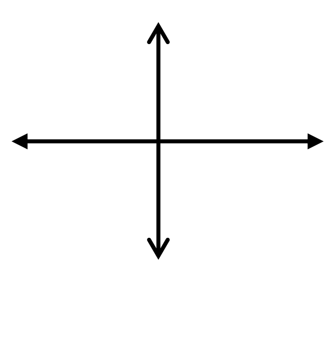
....

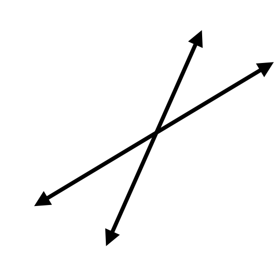
....

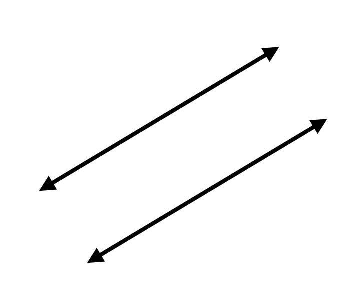
Unit (2) Geometry



Relation between two straight lines







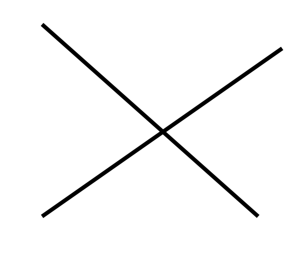
....

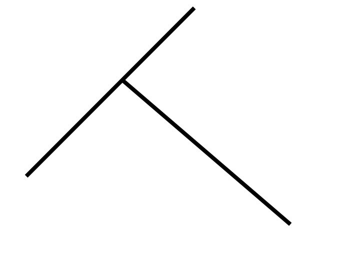
- The two perpendicular straight lines make an angle with measure .... °
- The measure of the angles between two intersecting straight lines not equal

  .... So they are acute or ....
- Use your the two edges of your ruler to draw two parallel lines.
- If they were extended from both side its impossible ....

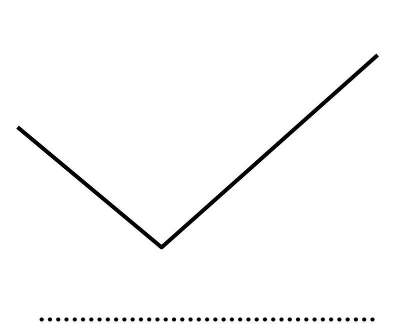
Solve Drill

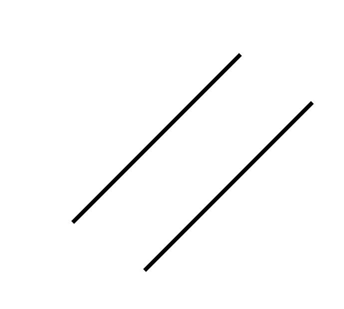
1- Write the relation between the two lines under each of the following figures:-





....





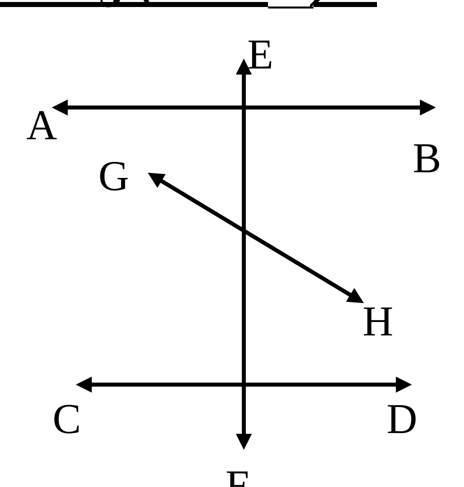
....

2- In the opposite figure, complete using (// or ⊥) :-

a) $\overleftrightarrow{AB}$ .... $\overleftrightarrow{EF}$

b) $\overleftrightarrow{CD}$ .... $\overleftrightarrow{EF}$

c) $\overleftrightarrow{CD}$ .... $\overleftrightarrow{AB}$

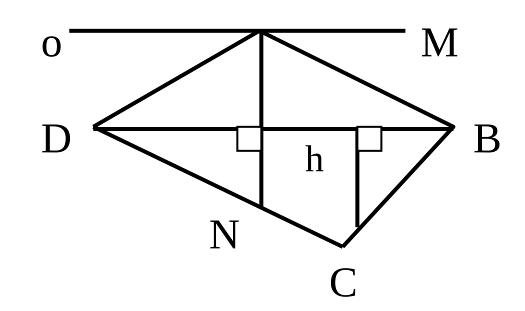


3- Notice the opposite figure, then complete :-

a) $\overleftrightarrow{AB}$ // ....

b) $\overleftrightarrow{HD}$ ⊥ ....

c) $\overleftrightarrow{DB}$ // ....



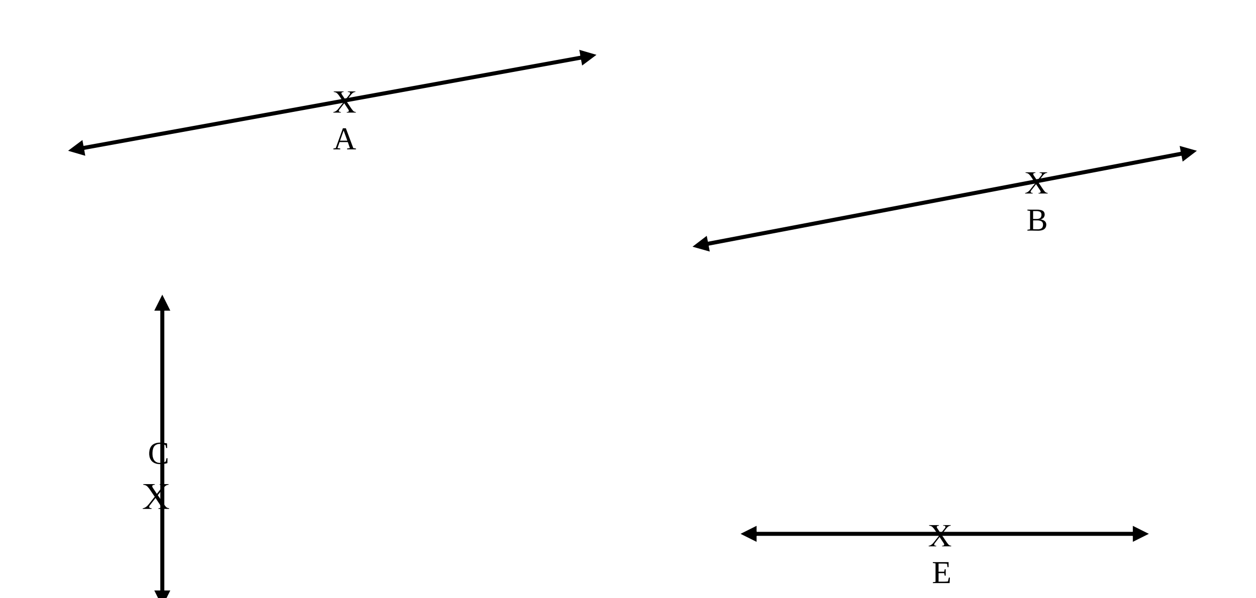
How to draw two perpendicular straight lines

Steps

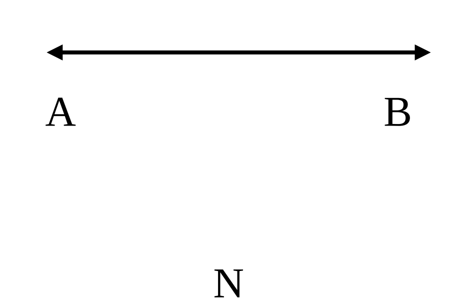
How to draw perpendicular straight line from apoint on it.

1. Draw the straight line L
2. Put a point A on the line.
3. Put your ruler on your line.
4. Put your setsquare perpendicular on the line.
5. slide the triangle on the line till point A
6. Draw a line perpendicular on it.

Draw a perpendicular line from a point on it:



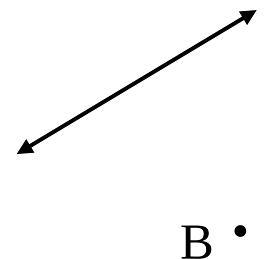
#**Draw a straight line parallel to AB from then shown point (N):-**



N

•

#**Draw a perpendicular from the show point (B) to the straight line:-**



B •

How to draw two perpendicular lines

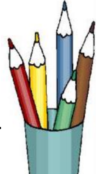
#**Draw perpendicular to a straight line from a point outside it.**

Steps

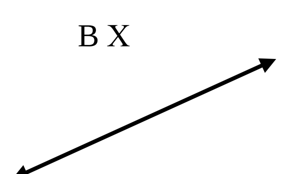
1- Draw straight-line $\overleftrightarrow{AB}$ put a point C outside it.

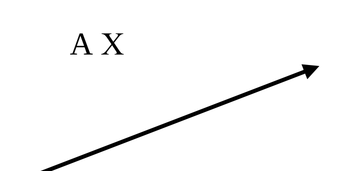
2- put the ruler on the straight line $\overleftrightarrow{AB}$ and fix the edge of the right angle of the set square on the edge of the ruler then slide it till C.

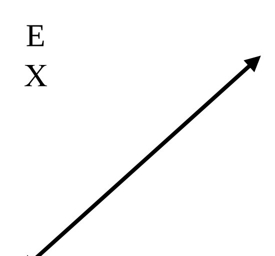
3- Draw line C perpendicular on $\overleftrightarrow{AB}$.

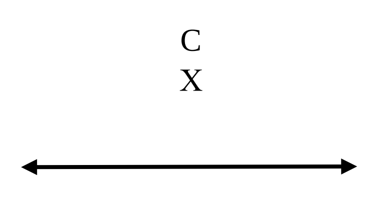


Draw a perpendicular line from point outside it:









X D

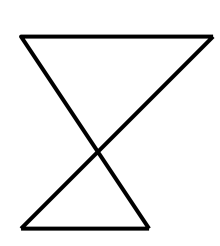


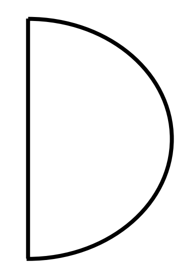
The Polygons

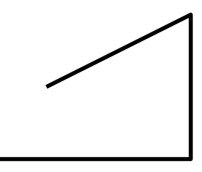
✶ The polygon is a geometric closed shape formed from the union of three or more line segment.

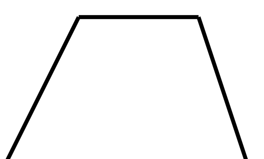
Name of polygon	Number of sides	Number of vertices	Number of angles
Triangle			
Quadrilateral			
Pentagon			
Hexagon			
Heptagon			
Octagon			
Nonagon			
Dexagon			

Determine which of the polygon:









....

1- Complete:-

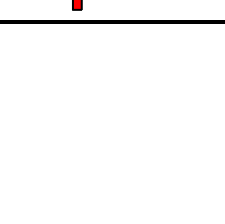
1. The polygon of 6 side is called ………………
2. The octagon has …………… sides.
3. In any polygon number of ……….. equal number of ……………
4. The heptagon has …………… angles.

2- Complete the following table:-

(triangle)	(quadrilateral)	(pentagon)	(hexagon)
………….	………….	………….	………….
Sides = ………	Sides = ………	Sides = ………	Sides = ………
Angles = ………	Angles = ………	Angles = ………	Angles = ………
Vertices = ………	Vertices = ………	Vertices = ………	Vertices = ………

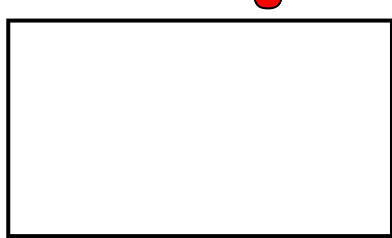
Special Case for some quadrilateral shapes

Square



- has .... sides
- has .... in measure.
- The diagonal........................ ....

Rectangle



- each .... are equal in length.
- has ....
- The diagonal........................ ....



- Who am I?

1. I have four equal sides? ....
2. I have four right angle and two perpendicular diagonal? ....
3. I have four side each two opposite are equal in length? ....
4. my two diagonal are not perpendicular put equal in length? ....

1- Complete:-

1. each two opposite side are equal in ....
2. The .... has four equal sides.
3. The diagonal in .... are equal put not perpendicular.
4. The diagonals in square are .... and .... and ....

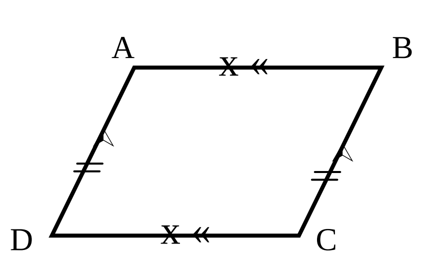
Shape		
Name	....	....
Sides	....	....
Angles	....	....
Diagonal	....	....

Follow special case for some quadrilateral shapes

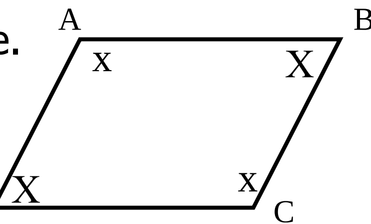
✶ Parallelogram:

The parallelogram is a quadrilateral in which:

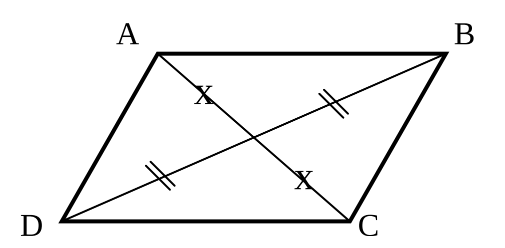
1. each two opposite side are .... and ....



2. Each two opposite angle are equal in measure.
   angels m π (......) = mπ (......)



3. The diagonal ....



✶ Rhombus:

The rhombus is a quadrilateral in which:

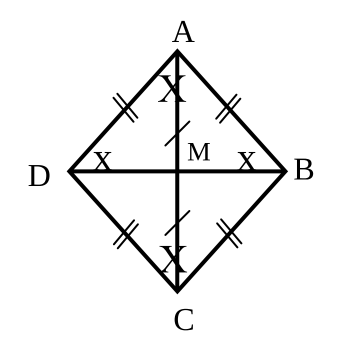
1. sides: ....

   AD = ... = ... = ...

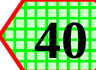
2. angles: ....

   m π (......) = m π (......)

3. diagonal: ....







1- Complete:-

1. The two diagonals are .... and .... in rhombus.

2. The rhombus has four equal.................

3. The two diagonals are .... but not equal in ....

4. each .... opposite side are .... in parallelogram.

2- Put (√) or (×):-

1. The parallelogram has four equal sides. ( )

2. The diagonal are perpendicular in rhombus. ( )

3. The diagonal are equal in parallelogram. ( )

3-

- Who am I?

* I have four sides.

* each two opposite side are equal in length and parallel.

* each two opposite angle are equal in measure.

* the diagonal bisect each other

(so) I am the ....

Revision on quadriateral shapes

\# **Draw the square ABCD with side length 4 cm then complete.**

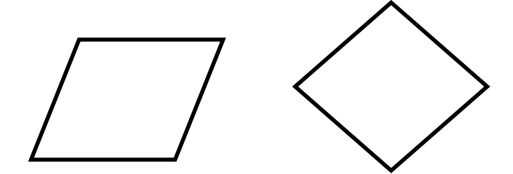
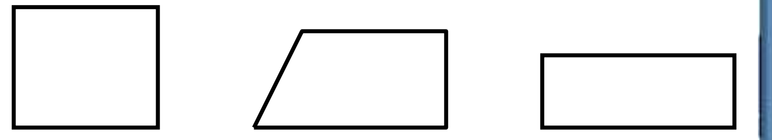
* AB = ………… = ………… = ………… cm
* $\overline{AB}$ // ………… and $\overline{BC}$ // …………
* $\overline{AB}$ ⊥ …….. , CD ⊥ …….. and $\overline{BD}$ ⊥ ……..

\# **Draw the rectangle XYZL in which its two dimensions' are 5 cm and 2 cm then complete.**

* XY = ………… = ………… cm of YZ = ………… = ………… cm
* $\overline{XY}$ // ………… and $\overline{XY}$ ⊥ …………
* $\overline{YZ}$ // …………. and $\overline{YZ}$ ⊥ ………….

Solve the book p.

1- Join each figure to its name:-

Square trapezium rectangle parallelogram Rhombus

2- Complete:-

1. The four sides are equal in ………………. and ……………..
2. The four angles are right in …………… and ……………….
3. The two diagonals of rectangle are …………… and …………
4. The polygon which has four sides is called a …………… has five sides ………… has eight sides …………..
5. in the parallelogram, every two opposite sides are ……….. and …………
6. The quad lateral has ………….. diagonals.
7. The properties of rhombus are ……………

3- Draw a rectangle xyzl whose side length width are 5 cm , and 2 cm:-

Complete:-

a) xy = ……….. = ……… cm and yz =……….. = ………… = ……… cm

b) $\overline{xy}$ = ……….. and $\overline{xy} \perp$ ………..

c) $\overline{yz}$ // ……….. and $\overline{yz} \perp$ ………..

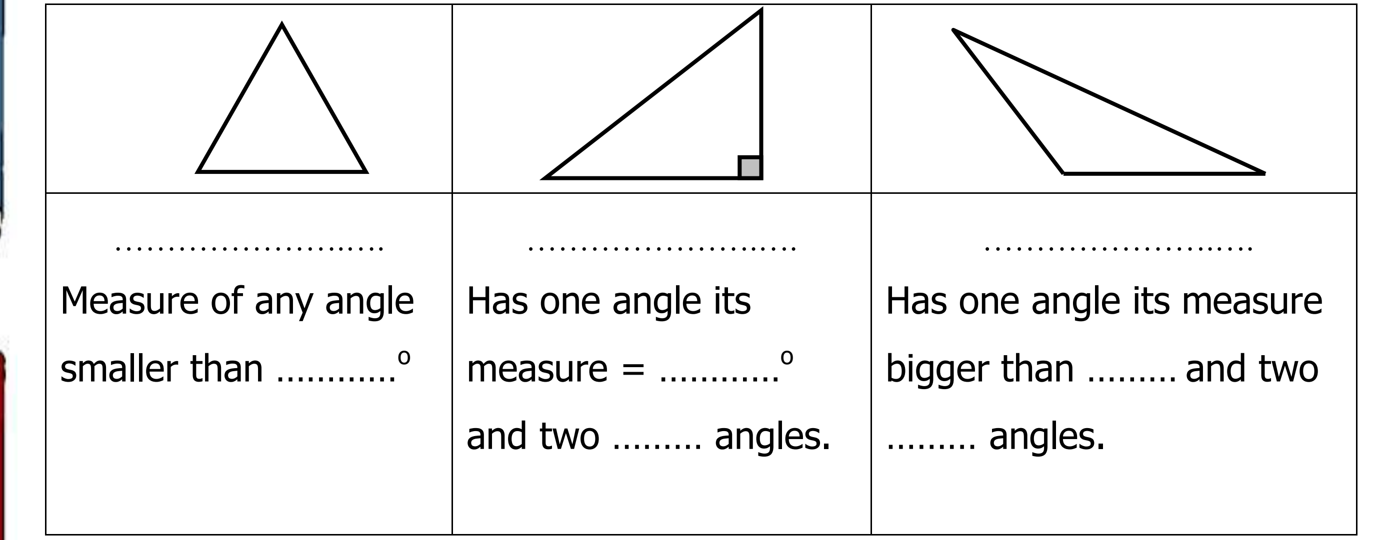


The Triangle

Type of triangle according to the angle.

- ☺ The triangle has .... angles.
- ☺ The sum of the measure of the angles of triangle = ...°

We have three types of triangle according to it angle.



.... Measure of any angle smaller than ....°	.... Has one angle its measure = ...° and two .... angles.	.... Has one angle its measure bigger than .... and two .... angles.

❖ **<u>Complete</u>**

1. The measure of right angle = ...°
2. The measure of................. > 90°
3. The measure of acute angle < .... °

Note:-

- ✶ We can't find two right angle in the same triangle.
- ✶ We can't find two obtuse angle in the same triangle.
- ✶ The sum two acute angles in right –angled triangle equal 90°.

1- Complete:-

1. Δ ABC, if m (π A) = 40° m (πB) = 70° then m (πC) = ………… °

2. in Δ xyz m (πX) =120° , m (πY) = 35° so the type of the triangle is………………

3. in Δ LMN m (πL) = 60° and m (πM) = 30° m (πN) = ………°
   and its type is …………

2-

- Who am I?

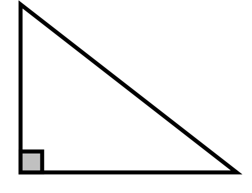
* I have three sides.

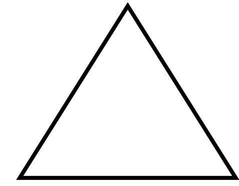
* I have three angle.

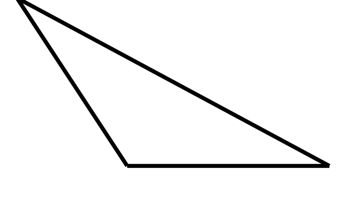
* The sum of two angle = the third.

(So) I am the ……………………..

3- Write the type of the triangle:-

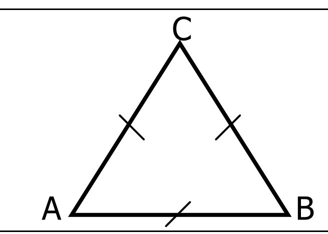
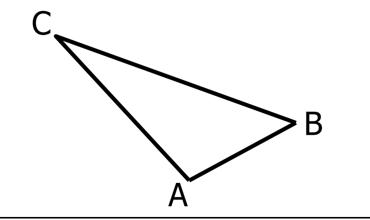






……………….. ……………….. ………………..

The type of triangle according to the length of its sides

	C A B	
………………………	………………………	………………………
The three sides are ……… in length. The three angle are ……… in measure m (πA) = m (πB) = ……… = ………°	Has ……… equal sides The two opposite angle to the two opposite sides are ……… in measure m (π……) = m (π……)	The three sides are ……… in length. The three angle are ……… in ……… **so** m (πA) ☐ m (π……) ☐ m (π……)

❖ Complete

1. The triangle whose side length are 5cm 4 cm and 3cm is called ………………

2. In the ………… triangle the three sides are equal in ………. and the three angles are ………… in ………… equal ……………° each.

Book p.

1- Complete:-

a) The sum of measures of the two acute angles in the right-angled triangle equal ……………………………….

b) The equilateral triangle is a triangle whose sides are …………..

c) The triangle is a ……. That has ……… sides and ………. angles.

d) In the isosceles triangle, there are ……….. equal angles.

e) If the side lengths of a triangle are different, then the triangle is called ………..

f) The triangle whose side lengths are 8cm, 5cm and 6cm is called ……... triangle.

g) The triangle whose side lengths are 8cm, 5cm and 8cm is called………triangle.

h) The triangle ABC is an equilateral triangle where AB = 5cm then AC = ……….. cm and BC = …………. cm

i) The measure of each angle in an equilateral triangle is ……………

j) In the triangle ABC if $m(\angle A) = 55^{\circ}$ and $m(\angle B) = 70^{\circ}$ then $m(\angle C) =$…………

k) 46°, 38°, 96° are the measures of the angles of an ………… triangle.

L) The sum of measures of the interior angles of a triangle is …………..

2- Complete:-

Triangle	Type of triangle according to	
	Sides	Angles
C, A, B; 4 cm, 5 cm, 6 cm		
C, A, B; 7 cm, 7 cm, 7 cm		
C, A, B; 5 cm, 9 cm, 5 cm		

How to Draw a triangle?

Note:-

* The sum of measures of the interior angle of any triangle = ………..°

Drawing a triangle given the measure of two angles and the length of one side.

Example1: Draw Δ ABC in which BC = 4cm m (πB) = 30^{o} and m (πC) = 80^{o}

Solution: (side – angle – angle)

Steps:

1- Draw side BC = 4cm the
2- Put the center of the protractor on point (B) and measure angle B =30^{o} take point then Draw line from B passing throw this point.
3- Put the center of the protector on point C and measure angle C = 80^{o} take point then Draw line from C passing throw this point.
4- The intersection point is point (A)

Example2: Draw Δ xyz in which xy= 3cm m (πX) = 50^{o} m (πY) = 40^{o}

Book p.

Draw Δ ABC in which

m (πB) = 30^o

m (πC) = 40^o

BC = 4cm

Draw Δ XYZ in which

m (πX) = 90^o

m (πY) = 30^o

XY = 4cm

Draw Δ LMN in which

m (πL) = 45^o

m (πM) = 45^o

LM = 3.5cm

How to Draw a triangle?

Drawing a triangle given length of two sides and the measure of the included angle (side , angle , side)

<u>Example</u>:

Draw Δ ABC in which

$m (\pi A) = 60^{o}$

AB = 4cm

AC = 3cm

<u>Steps</u>:

1- Draw AB = 4cm

2- Put your protractor to measure π A = 60^{o} and take point.

3- Draw AC passing throw this point and equal 3cm.

4- Join BC

Solve the book p.

Draw Δ ABC in which

AB = 3cm

BC = 4cm

m (πB) = 90^{o}

Draw Δ XYZ in which

m (πY) = 45^{o}

XY = 4cm

YZ = 4cm

Draw Δ LMN in which

m (πL) = 60^{o}

LM = 3cm

NL = 4cm

Revision

1- Complete:-

1. The triangle is a polygon that has .... sides and .... angles.
2. The diagonal of a rectangle are ....
3. The sum of measure of the interior angles of a triangle is .... °
4. The two diagonal are equal in .... , ...
5. The two diagonal are perpendicular on .... , ...

2- Put (√) or (×):-

1. If ABC is a triangle in which m (πB) = 98° then it is possible to be a right angle triangle. ( )
2. The diagonals are equal in rhombus. ( )
3. The number of sides of hexagon 6. ( )
4. The measure of right angle = 90°. ( )

3- Choose the correct answer:-

1. A triangle with side length 3cm , 4cm and 5cm is called a / an ....
   (scalene – equilateral – isosceles)
2. The figure whose four sides are equal in length in ....
   (trapezium – rectangle – square)

Book p.

1- Complete:-

1. The two diagonals are perpendicular in ....
2. In the triangle ABC, $m(\pi A) = m(\pi B) = 70^{o}$ then $m(\pi C) = ...^{o}$
3. All sides are equal in .... and ....
4. The shape ▭ is called ....
5. The measure of the obtuse angle is greater than the measure of the measure of the .... and .... angle.

2- Match:-

Square	- has only two opposite sides are parallel and not equal in length.
Triangle	- a polygon has five sides.
Trapezium	- its diagonal are perpendicular equal in length and bisect each other.
Pentagon	- the measure of its interior angles = 180^{o}

Unit (3)



Multiples



First review the time table.
We can say that the product of table 2 is multiples of number 2.
The product of table 3 is multiples of number 3 and so on.

❖ **Complete:**

a) 0 , 2 , 4 , 6 , ... , ... , ... , ... , ... , ... , ...

b) 0 , 3 , 6 , 9 , ... , ... , ... , ... , ... , ... , ...

c) 0 , 5 , 10 , ... , ... , ... , ... , ... , ... , ...

Remark:

- Multiples of number 2 an even numbers.
- Multiples of number 5 its units digit (0) or (5) zero is common multiples of all numbers.

❖ **Complete**:

a) (0 , 4 , 8 , 12 , 16) are multiples of number ....

b) (0 , 5 , 10 , 15 , 20) are multiples of number ....

❖ **Choose:**

a) A multiple of number 2 .... (41 , 13 , 24 , 15)

b) A multiple of number 3 .... (4 , 12 , 22 , 31)

- Write all multiples of number (3) less than 20
  ....
- Write multiples of number (5) less than 30
  ....

Solve the book p.

1- Join each number to its multiples:-




30	5
48	4
45	6
22	8
64	15
16	11
45	6

2- Write as in the example:-

a) All the multiples of 6 that are less than 37 are

0 , 6 , 12 , 18 , 24 , 30 , 36

b) All the multiples of 2 that are less than 20

....

c) All the multiples of 8 that are less than 50

....

d) All the multiples of 30 that are between 50 and 300

....

e) All the multiples of 4 which are less than 60

....

Follow Multiples

Join each number to its multiples:-

2   3   5

7   8   11   12   15   21   30

Complete with multiples of number 10:-

.... < 35 < .... < 11 < ....

.... < 24 < .... < 76 < ....

Write the common multiples of two numbers 3 and 5 that are less than 50

....

Don't forget write the smallest multiples zero

Write all the multiples of number 3 between 10 and 20

....

An alarm clock rings regularly every two hours, while another one ringe every 3 hours if the two alarm ring together at 12 o'clock at What time will they ring together after that?

....

Solve the book p.

Write the multiples of number 9 less than 80

....

Write the common multiples of the two number 2 and 5 that are included between 20 and 75

....

Write a number greater than 20 that is a multiple of the two numbers 2 and 4 and also a multiple of their product 8

Solution:

1- Multiples of number 2 that is > 20 are ....

2- Multiples of number 4 that is > 20 are ....

3- Multiples of number 8 that is > 20 are ....

4- The common multiple is ....



Divisibility

Example:

20 ÷ 2 = ... and remainder is ....

21 ÷ 2 = ... and remainder is ....

✶ ***We can say that:***

20 is divisible by 2 because the remainder is zero.

21 is not divisible by 2 because the remainder is 1.

✶ ***Generally:***

Any numbers is divisible by another if the remainder of division operation is zero.

Circle the number that are divisible by 2

15 , 18 , 102 , 5224 , 6143

Remake a number divisible by **2** if the unit 0 , 2 , 4 , 6 , 8

Circle the number that are divisible by 5

1425 , 2341 , 5012 , 7520

Remake a number divisible by **5** if its unit digit 0 or 5

Circle the number that are divisible by 3

231 , 1402 , 3315 , 1932

Remake a number divisible by **3** if the sum of its digit is divisible by 3

1- **Complete the following using the numbers:**

(624 , 250 , 275 , 169 , 196 , 225 , 130)

- The numbers that are divisible by 5 are …………………
- The numbers that are divisible by 2 are …………………
- The numbers that are divisible by 3 are …………………
- The numbers that are divisible by 10 are …………………

2- **Complete using divisible or not divisible:**

- 24 is ………… by 6
- 65 is …………… by 7
- 120 is ………… by 5
- 707 is ………….. by 7

3- **Choose the correct answer:**

a- 32 is divisible by …………… (8 or 5 or 6)

b- 52 is divisible by …………… (3 or 5 or 2)

c- 45 is divisible by …………… (5 or 18 or 6)

D- 28 is divisible by …………… (6 or 8 or 14)

Write three numbers divisible by 5

………… , ………… , …………

Write three numbers divisible by 3

………… , ………… , …………

Follow Divisibility

Note:-

- 9 is divisible by ………. but not divisible by 2
- 9 is multiple of ……….. but not multiples of 2.
- **Generally**:

  All multiples of a number are divisible by this number.

❖ **Complete**:

1) 45 is divisible by …………. while …………. is divisible by 3 , 2 , 6

2) 530 is divisible by both ……………… and …………….…

3) The smallest 3 – digit number that is divisible by 3 is ……………

4) 278 is divisible by …………… while 145 is divisible by ……………

5) 4 digit number divisible by 2 , 3 and 5 is ……………………

6) From the digits 4 , 2 and 7 form the greatest number which is divisible by 2 and 3 is ……………………

Solve the book p.

Ex (1):

Circle the number that are divisible by each of the numbers 2 , 3 together zero , 4 , 6, 9, 12 , 14 , 15 , 18

2) Write the three numbers that are divisible by 2 and 5

....

3) Put the suitable sign (√ or ×):

a) The number 42 is divisible by 7. ( )

b) The number 81 is divisible by 2. ( )

c) The number 64 is divisible by 8. ( )

d) The number 40 is divisible by two numbers 5 and 8. ( )

4) Complete:

a) Each of 15 , 18 and 26 are divisible by ....

b) Each of 24 , 32 and 40 are divisible by .... , ... and ....



Factors and prime numbers

Notice that:-

$12 = 1 \times 12$
$= 2 \times 6$
$= 3 \times 4$
$= 4 \times 3$ → Stop

$4 = 1 \times 4$
$= 2 \times 2$ → Stop

Remark
We can't repeat the factors.

We can say that 1 , 2, 3, 4, 6, 12 are factors of number 12

Remark:

- The number 1 is factor of all numbers.

❖ **Complete**:

Number	Factors	Number of factors
2		
10		
9		
13		
42		
31		

Note:

- Number 2 has .... Factors.
- Number 13 has .... factors.

Generally:-

The prime number has 2 factors only.

Ex: Circle the prime numbers.

1 , 3 , 6 , 4 , 7 , 11

Solve the book p.

1- Complete with (is a factor) or (is not a factor of):-

a) 11 ………………. 22

b) 5 ………………. 40

c) 0 ………………. 130

d) 4 ………………. 63

e) 3 ………………. 75

f) 1 ………………. 7895

2- Complete the following:-

a) ………………. is a common factor of all the numbers.

b) The factors of 24 are ……………………………………………….……

c) The factors of the number 35 are ……….……………………….………………

d) The factors 8 are …………………………………...…………………

e) 5 is a factor of ………………………………………….………………

f) The numbers that have only 3 factors are …………….. , ……………..

g) The number 9 has …………………… factors.

3- Write all the prime number less than 20:-

Prime number

❖ **Complete**:

1) The prime number has only …………… factors.

2) …………… is the smallest odd prime number.

3) The only even prime number is …………….

4) The number 5 is the sum of two prime numbers which are

…………… and ……………

How to factor is the (non-prime) number to its prime factors?

Ex: Factories each of the following number to its prime factors.

12 , 18 , 23 , 36

Solution:-

12 | 18 | 23 | 36 |

Solve the book p.

28	30	64

28 = ………………. 30 = ………………. 64 = ………………

2- Complete the table as in the example:-

Number	Its prime factors
84	2 , 2 , 3 , 7
28	…………………………………………
30	…………………………………………
64	…………………………………………

3- Complete:-

a) The prime numbers between 60 and 70 are ………………………

b) The number 37 has ………….. factors and it is a …………. number.

c) The prime factors of 14 are …………. and ……………….

d) The smallest number whose prime factors are 2 ,3 , 5 and 11 is …………

e) The greatest of the number 72 is …………….

f) The smallest prime factor of the number 42 is ………………



Common factors & highest common factor

Find the factors of 16 and 20

Factors of 16 = ...

Factors of 20 = ...

The common factors = Factors of 16 = ...

The lighters common factors (H.C.F) = ...

Remark:

- We can find the H.C.F by factorizing the number to its prime factors.

Ex: Find the H.C.F for each of the following sets of numbers.

a) 20 and 30

20 |

30 |

30 = ... × ...... × ......

20 = ... × ...... × ......

H.C.F = ... = ...

b) 24 , 40 and 56

24 |

40 |

56 |

24 = ...

40 = ...

56 = ...

H.C.F = ...

Solve the book p.

1- Factorize the following numbers to their prime factors, then find the H.C.F for them:

15 | 30 |

15 = ………………..

30 = ………………..

H.C.F = ……………





H.C.F

Find three common factors for 8 and 16

....

Factorize each of the two numbers:

6 and 15 their prime factors

6 | 15 |

6 = ...

15 = ...

Find the H.C.F of each of the following:

56 , 64 , 24

56 | 64 | 24 |

56 = ...

64 = ...

24 = ...

H.C.F is ....

Solve the book p.

Find the H.C.F of each of the following:

30 | 5   45 | 5   60 | 5

30 = ...
45 = ...
60 = ...

H.C.F = ...

42 | 56 | 98 |

42 = ...
56 = ...
98 = ...

H.C.F = ...

Find:

a) A common factor between the two numbers 10 and 15 is ....

c) Two common factors between the two numbers 9 and 27 are ....



Lowest common Multiples (L.C.M)

Write:

1) Multiples of (2) = ...
2) Multiples of (3) = ...
3) Common multiples = ...
4) Lon vest common multiples = ...

Remark:

- We can get the (L.C.M) using factorization

Ex: Find (L.C.M) for (4 , 12 and 15)

4 |

12 |

15 |

4 = ...

12 = ...

15 = ...

L.C.M = ... = ...

Write three common for 6 , 10:

Multiples for 6 = ...

Multiples for 10 = ...

Common multiples = ...

Write three multiples for 5.

....

Find all common multiples between 50 and 100 for

a) 5 and 10

....

....

b) 6 and 4

....

....

Find the lowest common multiples for 12 and 15

12 | 15 |

12 = ...

15 = ...

L.C.M = ...

Lowest common multiples

Ex: Write the L.C.M for the numbers 4 , 6 and 8

Solution:

4 | 6 | 8 |

4 = ………………
6 = ………………
8 = ………………
L.C.M = ………………………

If you know that the lowest common multiples for two numbers is 24 what are the two numbers.

Solution:

……………………………………………………………………………………
……………………………………………………………………………………

Solve the book p.

1- Find L.C.M for the numbers:

a) 5 and 7 b) 8 and10

……………………. ……………….

c) 12 and 9 d) 14 and 16

……………………. ……………….

e) 40 and 12 f) 72 and 96

……………………. ……………….

2- Find all common multiples between 60 and 100 for the numbers:

a) 5, 6 b) 7 , 8

……………………. ……………….

c) 16, 24 d) 3, 4 , 5

……………………. ……………….

e) 18 , 30 and 42 f) 30 and 45

……………………… ……………….

3- Find H.C.F and the L.C.F of 9, 12 and 18

4- Two numbers on of them is 12 their H.C.F is and their L.C.M is 60 Find the other number.

General Exercises

Put (√) for the correct statement and (×) for the in correct one and correct the wrong statement.

1- The number 63 is divisible by 6. (   )

2- The number 17 is a prime number. (   )

3- 0 and 7 are multiples of the number 7. (   )

4- The (H.C.F) for the two numbers 8 and 24 is 4. (   )

5- The L.C.M for the two numbers 8 and 24 is 8. (   )

The multiples of the number 6 which are between 20 and 40 are ……………………………………………

The factors of then number 35 are ……………………………………………

Find H.C.F and L.C.M for the numbers 24 and 36

24 |

36 |

24 = ……………
36 = ……………

H.C.F = ………………

24 = ……………
36 = ……………

L.C.M = ………………

Solve the book p.

1- Complete:-

a) The common multiples for all the numbers is ……………

b) The smallest prime number is ……………..

c) The whole number which has only one factor is ………………

d) The factors of 8 are ………………

d) The prime number whose sum of its factors is 8 is ……………

Find L.C.M and H.C.F for each group of the following numbers.

a) 14 , 21 , 35

14 |

21 |

35 |

14 = ………………………..
21 = ………………………..
35 = …………………………

H.C.F = ……………………….

L.C.M = …………………………

b) 16 , 24 , 48

16 |

24 |

48 |

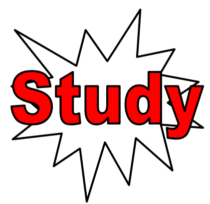
16 = ………………….
24 = ………………….
48= …………………..
H.C.F = ……………………….

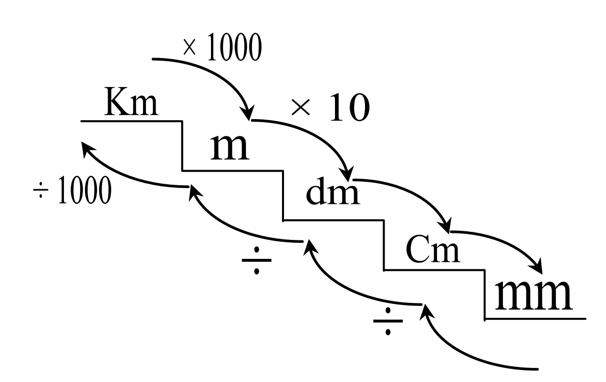
Unit (4)
Measurement



The Length

✶ **Units of measuring length (cm , m , km)**





❖ **Complete:**

a) m = ... cm
b) dm = ... cm
c) cm = ... mm
d) 4m = ... cm
e) km = ... m
f) 370 cm = ... m and .... cm
g) 2m = ... cm
h) 450 cm = ... m and .... cm

Notes:-

$\frac{1}{2}$ m = 50 cm	$\frac{1}{2}$ km = 500 m
$\frac{1}{4}$ m = 25 cm	$\frac{1}{4}$ km = 250 m
$\frac{3}{4}$ m = 75 cm	$\frac{3}{4}$ km = 750 m

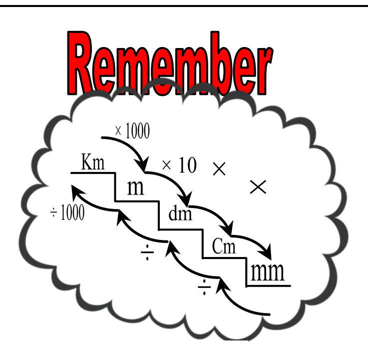
❖ **Put the suitable sign (< , > , =):**

a) $3\frac{1}{2}$ km ☐ 350 m
b) 500 m ☐ 2 km
c) 50 cm ☐ 20 dm
d) 450 cm ☐ $4\frac{1}{4}$ m

❖ **Choose the suitable unit for measuring:**

a) The height of classroom door (m – km – mm)
b) The with of science notebook (m – cm – km)
c) The length of your pencil (m – km – cm)

1- Complete:



a) 5 cm = ... mm.

b) $3\frac{1}{4}$ m = ... cm.

c) .... meters = 7500 centimeters.

d) $2\frac{3}{4}$ km = ... meters.

2- Choose the correct answer:

a) 8 km = ... m. (80 – 8000 – 800)

b) $4\frac{1}{2}$ km = ... m. (45 – 42 – 4500)

c) 12000 m = ... km. ($\frac{1}{2}$ – 12 – 120)

d) 5 dm = ... cm. (50 – 500 – 5)

e) dm = ... cm. (3 – 30 – 35)

Remember

$\frac{1}{2}$ Km = ... m

$\frac{1}{4}$ Km = ... m

$\frac{3}{4}$ Km = ... m

3- Put the suitable sign (< , > , =):

a) 3 centimeter ☐ 30 mm

b) 6 dm ☐ 4 m

c) $4\frac{1}{2}$ m ☐ 450 dm

Remember

$\frac{1}{2}$ m = ... cm

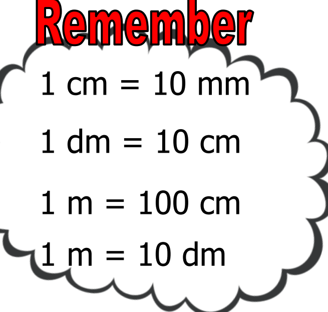
$\frac{1}{4}$ m = ... cm

$\frac{3}{4}$ m = ... cm

4- Arrange the following descending:

$\frac{1}{2}$ Km , 750 m , 750 dm , 8500 cm

.... , ... , ... , ... , ...

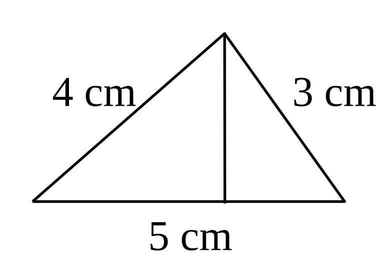


Follow The length

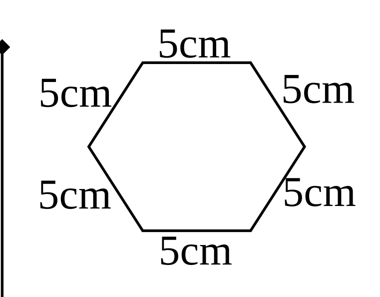
✶ The perimeter:

The perimeter of any polygon equals the sum of its side lengths.

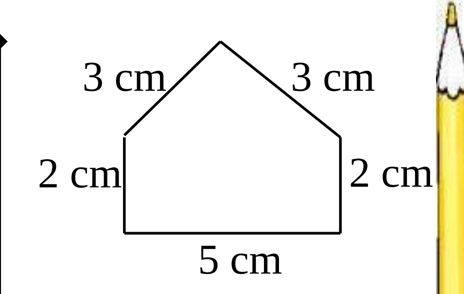
Find the perimeter of the following.



P = 3 + 4 + 5 = ... cm

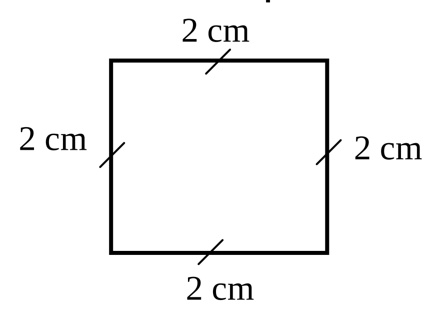


p = ... cm



p = ... cm

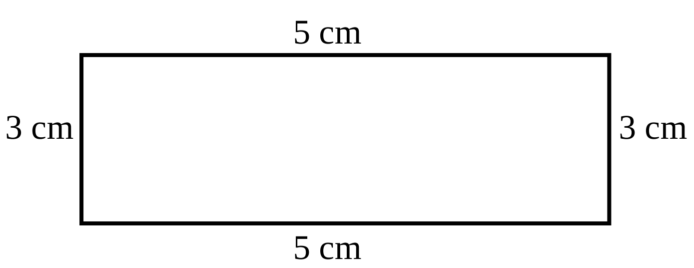
Perimeter of square



P = 2 + 2 + 2 + 2 = 2 × 4 = 8 cm

Perimeter of square = L × 4

Perimeter of rectangle



P = 3 + 5 + 3 + 5 = (3 × 5) × 2 = 16 cm

Perimeter of rectangle = (L × w) × 2

❖ Complete:

a) Perimeter of square = ...

b) Perimeter of rectangle = ...

c) Perimeter of square which side length 4cm = ... cm.

d) Perimeter of rectangle which its dimensions 4 and 3 cm = ... cm.

Solve the book p.

1- Find the length:-

P = 36 cm (sides: ?, ?)	15 cm, P = 40 (side: ?)

2- A square and an equilateral triangle have the same perimeter if the side length of the square is 3cm. Find the side length of this triangle

…………………………………………………………………………………

…………………………………………………………………………………

…………………………………………………………………………………

3- Calculate the perimeter of a rectangle whose length is twice its width, if its width is 5cm.

…………………………………………………………………………………

…………………………………………………………………………………

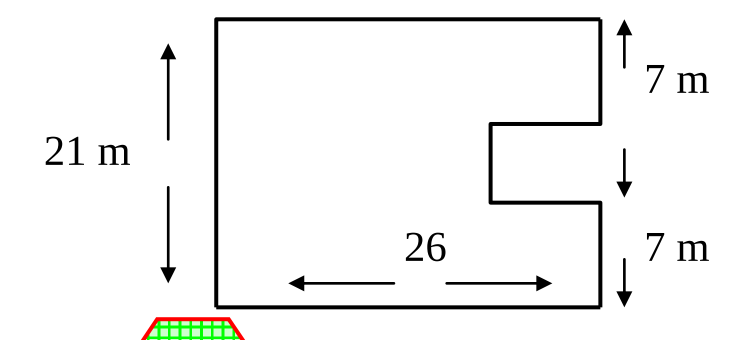
…………………………………………………………………………………

4- The following figure, a rectangle pice of land whose dimensions ions are 21 m and 26 m imagine that you cut the shaded pant , calculate the perimeter of the remaining part.

…………………………………………………………………………………

…………………………………………………………………………………

…………………………………………………………………………………



The length
Perimeter

✶ **Remember:**

Perimeter of square = ...

Perimeter of rectangle = ...

Calculate in centimeter, the side length of a square Whose perimeter is 4 dm.

....

....

The sum of perimeter of two squares is 100 dm if the side length of one of them = 8 dm , find the side length of the other.

....

....

Calculate the perimeter of the following.

* A rectangle shaped room whose dimensions are 4 m, 3 m.

....

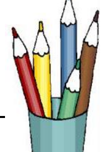
....

* A square shaped window of side length 15 dm.

....

....

Solve the book p.



1- The length of a rectangle is four times its width, find the perimeter in centimeter if the widths is 2 dm.

- The width = …………… cm.
- The length = …………… = …………… cm.
- The perimeter = ……………… = …………… = …………… cm.

2- Complete:

a) The perimeter of square of side length = 7 cm.

= ……… × ……… = ……… cm

b) The perimeter of square shaped piece of land of side length 12 m.

= ……………… = ………………… m

3- Which bigger in length.

The perimeter of square its side length = 5 cm or the perimeter of rectangle its dimensions 3 cm and 4 cm.

……………………………………………………………………………………………………

……………………………………………………………………………………………………

……………………………………………………………………………………………………

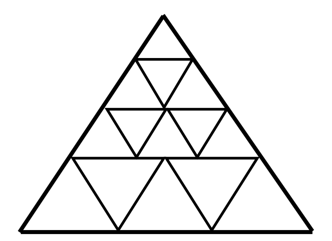
……………………………………………………………………………………………………



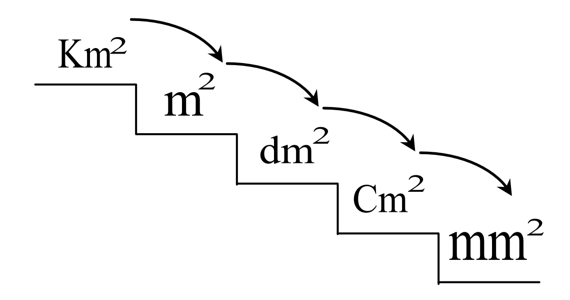


✶ **Look at the following figure and find its area to find the area.**
We count the number of the small units forming this figure.

Area = ………….. Δ



✶ **Study unit of measuring area.**



❖ **Complete:**

a) $5m^2$ = ………………… dm^2

b) 45 m^2 = ………………… cm^2

c) 7 km^2 = ………………… m^2

d) 5400 dm^2 = ………………… m^2

❖ **Choose the suitable unit to measure each of the following:**

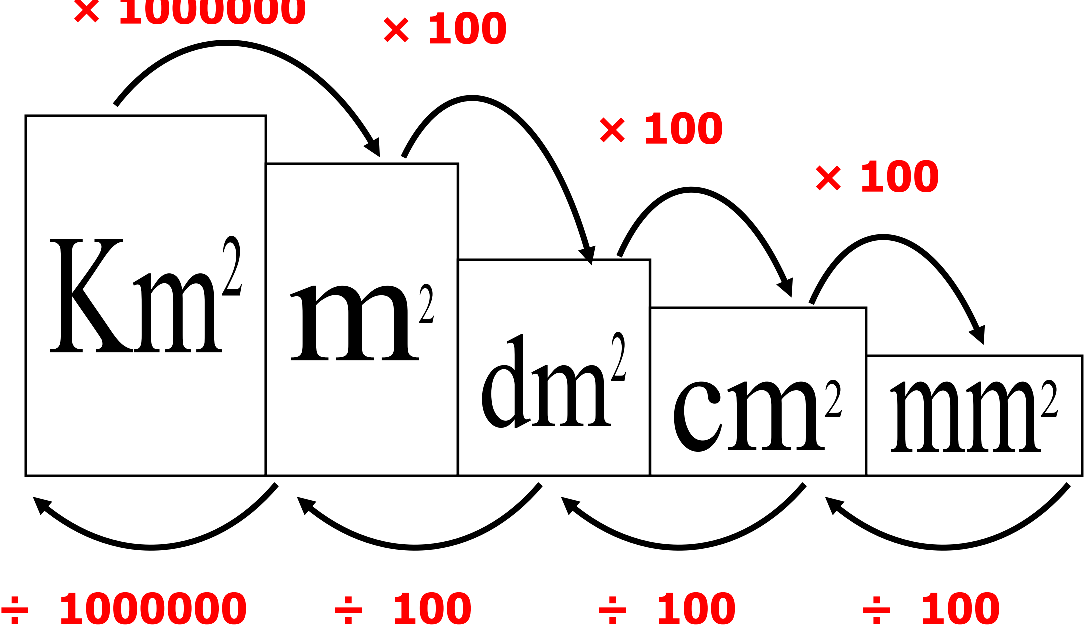
a) The area of the floor of a room …………… (km^2 – dm^2 – cm^2 – m^2)

b) The area of the land of Egypt …………… (km^2 – dm^2 – cm^2 – m^2)

c) The area of surface of a book page …………… (km^2 – dm^2 – cm^2 – m^2)

Solve the book p.





_The units of area:

1 km^2 = 1000 m × 1000 m = 1000 000 m^2

1 m^2 = 10 dm × 10 dm = 100 dm^2

1 m^2 = 100 cm × 100 cm = 100000 cm^2

1 dm^2 = 10 cm × 10 cm = 100 cm^2

Example:

1- Complete:

a) 8 dm^2= .... cm^2

b) 90000 cm^2= .... m^2

c) 9 km^2= .... dm^2

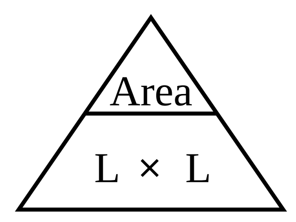
d) 6000000 m^2= .... km^2

e) 80000 cm^2= .... m^2

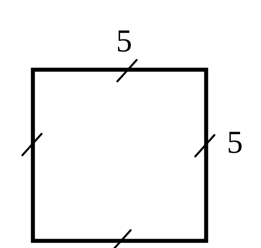
f) 5000 mm^2= .... cm^2

Follow The Area

✶ *Area of square*:



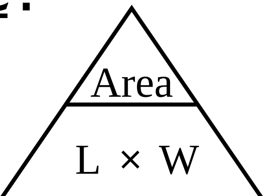
Calculate the area of square its length = 5 cm



Area of square = ... × ....

= .... × .... = ... cm^2

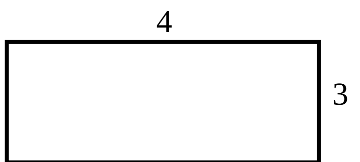
✶ *Area of rectangle* :



Calculate the area of rectangle its dimensions 3 cm and 4 cm

Area of rectangle = ... × ....

= .... × .... = ... cm^2



Which is bigger in area?

Square its length = 6 cm or rectangle its dimensions 5 cm and 4 cm.

The solution:

- Area of square = ... × .... = ... cm^2
- Area of rectangle = ... × .... = ... cm^2

(So) area of .... > area ....

Book p.

The perimeter of a rectangle is 86 cm and its length is 23 cm.

Find its width.

....

....

Find the perimeter of square if its area = 9 cm^2.

Area = L × L

= .... × .... = 9 cm^2

Cartoon in shape of square its length = 5 cm then its area

= .... cm^2

The area of square of side length = 2 cm.

....